



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Dr. Uwe W. Hamm

Examiner:

Serial No.: 10/010,135

Group Art Unit:

Filed: December 06, 2001

Date: January 23, 2002

For: PROCESS AND DEVICE FOR IN-SITU DECONTAMINATION OF AN
EUV-LITHOGRAPHY DEVICE

Assistant Commissioner of Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

This invention relates to a EUV lithography devices do indeed have a vacuum or an inert gas atmosphere in their interior, yet the appearance of hydrocarbons and/or other carbon compounds within the device cannot be fully prevented. These carbon compounds lead to the contamination of the optical elements and a resulting loss in reflectivity. In order to counteract this, it has been suggested that while operating the EUV lithography device, the degree of contamination should be constantly monitored, e.g. using quartz crystal microwaves. Depending on the degree of contamination, oxygen is supplied to the interior of the lithography device. The oxygen, in combination with exposure radiation breaks down the contamination while the lithography device is running. The EUV lithography device is thereby equipped with at least one measuring device and a connected control unit, which is connected to the oxygen supply.

As authorized and encouraged under 37 C.F.R. §1.97-1.99, applicant hereby cites as a means of complying with the duty of disclosure set forth in 37 C.F.R. §1.56, the following patents and/or documents, copies enclosed, which the Examiner should consider with respect to the above-identified United States Patent Application:

U.S. DOCUMENTS		
PATENT/DOCUMENT NO.	DATE	INVENTOR
4,614,427	September 30, 1986	Koizumi et al.
5,024,968	June 18, 1991	Engelsberg
FOREIGN DOCUMENTS		
PATENT/DOCUMENT NO.	DATE	COUNTRY
WO 87/02603	May 7, 1987	WIPO
WO 00/31780	June 2, 2000	WIPO
2000306807	November 2, 2000	JP Abstract
09089650	April 4, 1997	JP Abstract
2000323396	November 24, 2000	JP Abstract
11-329931	November 30, 1999	JP
1 143 491	October 10, 2001	EP
874 283	October 28, 1998	EP
421 745	January 18, 1995	EP
660 188	June 28, 1995	EP
DOCUMENTS/ARTICLES		
In Situ Reactive Cleaning of X-Ray Optics by Glow Discharge, Erik D. Johnson and Richard F. Garrett, Nuclear Instruments and Methods in Physics Research A266 (1988), pp 381-385, North-Holland Physics Publishing Division, Amsterdam		

Copies of the publications are included for the express purpose of providing the Patent and Trademark Office with an ample opportunity to evaluate the same and to arrive at an independent assessment of their materiality, if any, with regard to the examination of the application.

In reviewing the enclosed copies of the above publications, the Examiner is requested to ignore any underscoring or highlighting which may appear because such markings may or may not have any relationship to the subject matter of the above-identified application. The copies being submitted with this Information Disclosure Statement are the best copies available at this time.

An examination of the present application considering the above documents is requested.

Respectfully submitted,

HUDAK & SHUNK CO., L.P.A.

A handwritten signature in black ink, reading "Daniel J. Hudak, Jr." in a cursive script.

Daniel J. Hudak, Jr.

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Attorney Docket No.: FMW-SS (CZ 51)

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office				Atty. Docket No.: FMW-SS (CZ 51)		Serial No.: 10/010,135	
<div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block; text-align: center;"> LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary) FEB 14 2002 </div>				Applicant: Dr. Uwe W. Hamm		Filing Date: December 6, 2001	
Group:							

U.S. PATENT DOCUMENTS							
Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing date if appropriate	
-	AA	4,614,427	September 30, 1986				
-	AB	5,024,968	June 18, 1991				
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS							
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	AL	WO 87/02603	May 7, 1987				
	AM	WO 00/31780	June 2, 2000				
	AN	2000306807	November 2, 2000				
	AO	09089650	April 4, 1997				
	AP	2000323396	November 24, 2000				

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AR		In Situ Reactive Cleaning of X-Ray Optics by Glow Discharge, Erik D. Johnson and Richard F. Garrett, Nuclear Instruments and Methods in Physics Research A266 (1988), pp 381-385, North-Holland Physics Publishing Division, Amsterdam
	AS		
	AT		

EXAMINER	DATE CONSIDERED
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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